

IN THE CLAIMS:

Please amend the claims as follows:

1 1. (Previously presented) An apparatus for terminating a physiological process that
2 causes cessation of breathing to occur in an airway of a person due to a complete obstruction of said
3 airway due to an obstructive sleep apnea event, wherein said physiological process is terminated
4 before cessation of breathing occurs, wherein the apparatus comprises:

5 at least one microphone capable of being acoustically associated with said person, said
6 microphone capable of detecting breathing sounds within said airway of said person and capable of
7 generating signals representative of said breathing sounds;

8 a controller coupled to said at least one microphone and capable of receiving said signals,
9 said controller capable of identifying within said signals at least one signal pattern that is associated
10 with a breathing pattern of said person that occurs at the onset of said physiological process, before
11 cessation of breathing occurs, and capable of generating an alarm signal in response thereto; and

12 a stimulus generator coupled to said controller, said stimulus generator capable of receiving
13 said alarm signal from said controller, and in response thereto, creating a stimulus to said person's
14 neck muscles to cause said person to move said person's neck muscles to move said person's head
15 backwards to terminate said physiological process before cessation of breathing occurs.

1 2. (Previously presented) An apparatus as claimed in Claim 1 wherein said stimulus
2 generator comprises an electrical current source placed adjacent to said person's neck muscles.

1 3. (Previously presented) An apparatus as claimed in Claim 1 wherein said stimulus
2 generator comprises a vibrator and a sound generator placed adjacent to said person's neck muscles.

1 4. (Previously presented) An apparatus as claimed in Claim 1 wherein said stimulus
2 generator comprises a vibrator and an electrical current source placed adjacent to said person's
3 neck muscles.

1 5. (Previously presented) An apparatus as claimed in Claim 1 further comprising a base
2 station coupled to said controller wherein said controller is capable of sending an alarm signal to said
3 base station to indicate that at least one signal pattern has been identified that is associated with a
4 breathing pattern of said person that occurs at the onset of said physiological process before cessation
5 of breathing occurs.

1 6. (Previously presented) An apparatus as claimed in Claim 1 further comprising at least
2 one filter coupled between said at least one microphone and said controller, wherein said at least one
3 filter is capable of filtering said signals from said at least one microphone to create filtered signals
4 representative of said breathing sounds, and wherein said controller is capable of identifying within
5 said filtered signals at least one signal pattern that is associated with a breathing pattern of said
6 person that occurs at the onset of said physiological process before cessation of breathing occurs.

1 7. (Original) The apparatus as claimed in Claim 1 further comprising an airflow sensor
2 capable of detecting a flow of air within an airway of said person and capable of generating an
3 airflow detection signal that is representative of the presence of said flow of air; and
4 wherein said controller is coupled to said airflow sensor and is capable of receiving said
5 airflow detection signal from said airflow sensor to obtain information concerning the breathing of
6 said person.

1 8. (Previously presented) The apparatus as claimed in Claim 1 wherein said controller
2 comprises software capable of analyzing said signals to identify within said signals at least one signal
3 pattern that is associated with a breathing pattern of said person that occurs at the onset of said
4 physiological process before cessation of breathing occurs.

1 9. (Previously presented) The apparatus as claimed in Claim 8 wherein said software
2 analyzes said signals using Fast Fourier Transform analysis to identify at least one signal pattern that
3 is associated with a breathing pattern of said person that occurs at the onset of said physiological
4 process before cessation of breathing occurs.

1 10. (Original) The apparatus as claimed in Claim 1 wherein said controller operates only
2 during one half of the respiration cycle.

1 11. (Previously presented) An apparatus for terminating a physiological process that
2 causes partially occluded breathing to occur in an airway of a person due to a partial obstruction of
3 said airway due to an obstructive sleep apnea event, wherein said physiological process is terminated
4 before cessation of breathing occurs, wherein the apparatus comprises:

5 at least one microphone capable of being acoustically associated with said person, said
6 microphone capable of detecting breathing sounds within said airway of said person and capable of
7 generating signals representative of said breathing sounds;

8 a controller coupled to said at least one microphone and capable of receiving said signals,
9 said controller capable of identifying within said signals at least one signal pattern that is associated
10 with a partially occluded breathing pattern of said person that occurs at the onset of said
11 physiological process before cessation of breathing occurs, and capable of generating an alarm signal
12 in response thereto; and

13 a stimulus generator coupled to said controller, said stimulus generator capable of receiving
14 said alarm signal from said controller, and in response thereto, creating a stimulus to said person's
15 neck muscles to cause said person to move said person's neck muscles to move said person's head
16 backward to terminate said partially occluded breathing and to restore normal breathing.

1 12. (Previously presented) An apparatus as claimed in Claim 11 wherein said stimulus
2 generator comprises an electrical current source placed adjacent to said person's neck muscles.

1 13. (Previously presented) An apparatus as claimed in Claim 11 wherein said stimulus
2 generator comprises a vibrator and a sound generator placed adjacent to said person's neck muscles.

1 14. (Previously presented) An apparatus as claimed in Claim 11 wherein said stimulus
2 generator comprises a vibrator and an electrical current source placed adjacent to said person's neck
3 muscles.

1 15. (Previously presented) An apparatus as claimed in Claim 11 further comprising a
2 base station coupled to said controller wherein said controller is capable of sending an alarm signal
3 to said base station to indicate that at least one signal pattern has been identified that is associated
4 with a partially occluded breathing pattern of said person that occurs at the onset of said
5 physiological process before cessation of breathing occurs.

1 16. (Previously presented) An apparatus as claimed in Claim 11 further comprising at
2 least one filter coupled between said at least one microphone and said controller, wherein said at
3 least one filter is capable of filtering said signals from said at least one microphone to create filtered
4 signals representative of said breathing sounds, and wherein said controller is capable of identifying
5 within said filtered signals at least one signal pattern that is associated with a partially occluded
6 breathing pattern of said person that occurs at the onset of said physiological process before cessation
7 of breathing occurs.

1 17. (Original) The apparatus as claimed in Claim 11 further comprising an airflow
2 sensor capable of detecting a flow of air within an airway of said person and capable of generating
3 an airflow detection signal that is representative of the presence of said flow of air; and

4 wherein said controller is coupled to said airflow sensor and is capable of receiving said
5 airflow detection signal from said airflow sensor to obtain information concerning the breathing of
6 said person.

1 18. (Previously presented) The apparatus as claimed in Claim 11 wherein said controller
2 comprises software capable of analyzing said signals to identify within said signals at least one signal
3 pattern that is associated with a partially occluded breathing pattern of said person that occurs
4 at the onset of said physiological process before cessation of breathing occurs.

1 19. (Previously presented) The apparatus as claimed in Claim 18 wherein said software
2 analyzes said signals using Fast Fourier Transform analysis to identify at least one signal pattern that
3 is associated with a partially occluded breathing pattern of said person that occurs at the onset of
4 said physiological process before cessation of breathing occurs.

1 20. (Original) The apparatus as claimed in Claim 11 wherein said controller
2 operates only during one half of the respiration cycle.

1 21. (Previously presented) A method for terminating a physiological process that causes
2 cessation of breathing to occur in an airway of a person due to a complete obstruction of said airway
3 due to an obstructive sleep apnea event, said method comprising the steps of:

4 detecting breathing sounds within said airway of said person;
5 generating signals representative of said breathing sounds;
6 identifying within said signals at least one signal pattern that is associated with a breathing
7 pattern of said person that occurs at the onset of said physiological process before cessation of
8 breathing occurs; and

9 creating a stimulus to said person's neck muscles to cause said person to move said person's
10 neck muscles to move said person's head backwards to terminate said physiological process before
11 cessation of breathing occurs.

1 22. (Currently amended) The method as claimed in Claim 21 wherein said step of
2 creating a stimulus to said person's neck muscles to cause said person to move said person's neck
3 muscles to move said person's head backwards to terminate said physiological process before
4 cessation of breathing occurs comprises ~~one of~~ the step of:

5 generating an electrical current through the neck muscles of said person.

1 23. (Previously presented) The method as claimed in Claim 21 wherein said step of
2 creating a stimulus to said person's neck muscles to cause said person to move said person's
3 neck muscles to move said person's head backwards to terminate said physiological process before
4 cessation of breathing occurs comprises the steps of:

5 activating a vibrator placed adjacent to said person's neck muscles; and

6 generating a sound with a sound generator placed adjacent to said person's neck muscles.

1 24. (Previously presented) The method as claimed in Claim 21 wherein said step of
2 creating a stimulus to said person's neck muscles to cause said person to move said person's
3 neck muscles to move said person's head backwards to terminate said physiological process before
4 cessation of breathing occurs comprises the steps of:

5 activating a vibrator placed adjacent to said person's neck muscles; and

6 generating an electrical current through the neck muscles of said person.

1 25. (Previously presented) The method as claimed in Claim 21 further comprising the
2 steps of:

3 filtering said signals representative of said breathing sounds to create filtered signals
4 representative of said breathing sounds; and

5 identifying within said filtered signals at least one signal pattern that is associated with a
6 breathing pattern of said person that occurs at the onset of said physiological process before cessation
7 of breathing occurs.

1 26. (Previously presented) The method as claimed in Claim 21 further comprising the
2 steps of:

3 recording said at least one signal pattern that is associated with a breathing pattern of said
4 person that occurs at the onset of said physiological process before cessation of breathing occurs;

5 monitoring said signals representative of said breathing sounds as said person breathes;

6 comparing said signals representative of said breathing sounds with said recorded at least one
7 signal pattern that is associated with a breathing pattern of said person that occurs at the onset of said
8 physiological process before cessation of breathing occurs; and

9 identifying within said signals a signal pattern that is substantially the same as said recorded
10 at least one signal pattern that is associated with a breathing pattern of said person that occurs at the
11 onset of said physiological process before cessation of breathing occurs.

1 27. (Original) The method as claimed in Claim 21 wherein the step of detecting
2 breathing sounds within an airway of said person comprises:

3 detecting breathing sounds within said airway of said person only during one half of the
4 respiration cycle.

1 28. (Previously presented) A method for terminating a physiological process that causes
2 partially occluded breathing to occur in an airway of a person due to a partial obstruction of said
3 airway due to an obstructive sleep apnea event, wherein said physiological process is terminated
4 before cessation of breathing occurs, said method comprising the steps of:

5 detecting breathing sounds within said airway of said person;

6 generating signals representative of said breathing sounds;

7 identifying within said signals at least one signal pattern that is associated with a partially
8 occluded breathing pattern of said person that occurs at the onset of said physiological process before
9 cessation of breathing occurs;

10 recording said at least one signal pattern that is associated with a partially occluded breathing
11 pattern of said person that occurs at the onset of said physiological process before cessation of
12 breathing occurs;

13 monitoring said signals representative of said breathing sounds as said person breathes;

14 comparing said signals representative of said breathing sounds with said recorded at least one
15 signal pattern that is associated with a partially occluded breathing pattern of said person that occurs
16 at the onset of said physiological process before cessation of breathing occurs;

17 identifying within said signals a signal pattern that is substantially the same as said recorded
18 at least one signal pattern that is associated with a partially occluded breathing pattern of said person
19 that occurs at the onset of said physiological process before cessation of breathing occurs; and

20 creating a stimulus to said person's neck muscles to cause said person to move said person's
21 neck muscles to move said person's head backwards to terminate said partially occluded breathing
22 and to restore normal breathing.

1 29. (Previously presented) A method for terminating a physiological process that causes
2 cessation of breathing to occur in an airway of a person due to a complete obstruction of said airway
3 due to an obstructive sleep apnea event, wherein said physiological process is terminated before
4 cessation of breathing occurs, said method comprising the steps of:

5 detecting breathing sounds within said airway of said person;

6 generating signals representative of said breathing sounds;

7 identifying within said signals at least one signal pattern that is associated with a normal
8 breathing pattern of said person;

1 recording said at least one signal pattern that is associated with a normal breathing pattern
2 of said person;

3 monitoring said signals representative of said breathing sounds as said person breathes;

4 comparing said signals representative of said breathing sounds with said recorded at least one
5 signal pattern that is associated with a normal breathing pattern of said person;

6 identifying within said signals a signal pattern that is substantially different from said
7 recorded at least one signal pattern that is associated with a normal breathing pattern of said person;
8 and

9 creating a stimulus to said person's neck muscles to cause said person to move said person's
10 neck muscles to move said person's head backwards to restore normal breathing before cessation
11 of breathing occurs.